

Initial Deliverability
Test

NEW MEXICO OIL CONSERVATION COMMISSION
GAS WELL TEST DATA SHEET - - SAN JUAN BASIN

(TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVERDE, & ALL DAKOTA
EXCEPT BARKER DOME STORAGE AREA)

Pool Blanco Formation Mesa Verde County Rio Arriba
Purchasing Pipeline Pacific Northwest Pipeline Corporation Date Test Filed 7-18-58
Operator Northwest Production Corp. Lease "F" Well No. 11-15
Unit 6 Sec. 15 Twp. 24N Rge. 3W Pay Zone: From 5492 To 5900
Casing: OD 5-1/2 WT. 14 & 15.5 Set At 5993 Tubing: OD 2-3/8 WT. 4.7 T. Perf. 5930
Produced Through: Casing _____ Tubing X Gas Gravity: Measured 0.701 Estimated _____
Date of Flow Test: From 6-21-58 To 6-29-58 * Date S.I.P. Measured 4-4-58
Meter Run Size 4.027 Orifice Size 0.250 Type Chart L-10 Type Taps FL

OBSERVED DATA

Flowing casing pressure (Dwt) _____ psig + 12 = _____ psia (a)
Flowing tubing pressure (Dwt) _____ psig + 12 = _____ psia (b)
Flowing meter pressure (Dwt) _____ psig + 12 = _____ psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken:
Normal chart reading _____ psig + 12 = _____ psia (d)
Square root chart reading (_____) ² x spring constant _____ = _____ psia (d)
Meter error (c) - (d) or (d) - (c) _____ ± _____ = _____ psi (e)
Friction loss, Flowing column to meter:
(b) - (c) Flow through tubing; (a) - (c) Flow through casing _____ = _____ psi (f)
Seven day average static meter pressure (from meter chart):
Normal chart average reading 449 psig + 12 = 461 psia (g)
Square root chart average reading (_____) ² x sp. const. _____ = _____ psia (g)
Corrected seven day avge. meter press. (p_f) (g) + (e) _____ = 461 psia (h)
P_t = (h) + (f) _____ = 461 psia (i)
Wellhead casing shut-in pressure (Dwt) _____ psig + 12 = _____ psia (j)
Wellhead tubing shut-in pressure (Dwt) 835 psig + 12 = 847 psia (k)
P_c = (j) or (k) whichever well flowed through _____ = 847 psia (l)
Flowing Temp. (Meter Run) 79 °F + 460 _____ = 539 °Abs (m)
P_d = 1/2 P_c = 1/2 (l) _____ = 424 psia (n)

FLOW RATE CALCULATION

$$Q = \frac{\left(\frac{V(c)}{V(d)} \right)^{1/2} \times \left(\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right)^{1/2}}{(integrated)} = \text{_____ MCF/day}$$

DELIVERABILITY CALCULATION

$$D = Q \times \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^{1/2} = \frac{15 \times \left[\frac{537,633 - 424^2}{537,633 - 304,823} \right]^{1/2}}{(1.0649)^N} = 16 \text{ MCF/day}$$

SUMMARY

P_c = 847 psia
Q = 15 Mcf/day
P_w = 461 psia
P_d = 424 psia
D = 16 Mcf/day

Company Northwest Production Corp.
By Ray Phillips RAY PHILLIPS
Title Manager, Prod Operations
Witnessed by _____
Company _____

* This is date of completion test.
* Meter error correction factor

REMARKS OR FRICTION CALCULATIONS

| GL | (1-e ^{-S}) | (F _c Q) ² | (F _c Q) ² (1-e ^{-S}) R ² | P _t ² (Column i) | P _t ² + R ² | P _w |
|------|----------------------|---------------------------------|--|---|--|----------------|
| 4157 | 0.281 | 0.020 | 5 | 212,521 | 212,526 | 461 |

F_c = 9.402



